M Brennan Pecha

List of Publications by Year
in descending order

25 papers	581 citations	623734 14 h-index	677142 22 g-index
25 all docs	25 docs citations	25 times ranked	565 citing authors

#	Article	IF	Citations
1	Progress in understanding the four dominant intra-particle phenomena of lignocellulose pyrolysis: chemical reactions, heat transfer, mass transfer, and phase change. Green Chemistry, 2019, 21, 2868-2898.	9.0	102
2	Advances in Multiscale Modeling of Lignocellulosic Biomass. ACS Sustainable Chemistry and Engineering, 2020, 8, 3512-3531.	6.7	79
3	Integrated Particle- and Reactor-Scale Simulation of Pine Pyrolysis in a Fluidized Bed. Energy & Fuels, 2018, 32, 10683-10694.	5.1	39
4	Assessment of a detailed biomass pyrolysis kinetic scheme in multiscale simulations of a single-particle pyrolyzer and a pilot-scale entrained flow pyrolyzer. Chemical Engineering Journal, 2021, 418, 129347.	12.7	38
5	Mesoscale Reactionâ€“Diffusion Phenomena Governing Ligninâ€First Biomass Fractionation. ChemSusChem, 2020, 13, 4495-4509.	6.8	35
6	Beyond the effectiveness factor: Multi-step reactions with intraparticle diffusion limitations. Chemical Engineering Journal, 2020, 380, 122507.	12.7	31
7	Advancing catalytic fast pyrolysis through integrated multiscale modeling and experimentation: Challenges, progress, and perspectives. Wiley Interdisciplinary Reviews: Energy and Environment, 2018, 7, e297.	4.1	30
8	Effect of a Vacuum on the Fast Pyrolysis of Cellulose: Nature of Secondary Reactions in a Liquid Intermediate. Industrial & Engineering Chemistry Research, 2017, 56, 4288-4301.	3.7	29
9	Multiscale CFD simulation of biomass fast pyrolysis with a machine learning derived intra-particle model and detailed pyrolysis kinetics. Chemical Engineering Journal, 2022, 431, 133853.	12.7	25
10	Effect of Pressure on Pyrolysis of Milled Wood Lignin and Acid-Washed Hybrid Poplar Wood. Industrial & Engineering Chemistry Research, 2017, 56, 9079-9089.	3.7	23
11	Estimation of Heat Transfer Coefficients for Biomass Particles by Direct Numerical Simulation Using Microstructured Particle Models in the Laminar Regime. ACS Sustainable Chemistry and Engineering, 2017, 5, 1046-1053.	6.7	20
12	Multi-scale simulation of reaction, transport and deactivation in a SBA-16 supported catalyst for the conversion of ethanol to butadiene. Catalysis Today, 2019, 338, 141-151.	4.4	17
13	Surplus electricity production and LCOE estimation in Colombian palm oil mills using empty fresh bunches (EFB) as fuel. Energy, 2020, 202, 117713.	8.8	17
14	Impacts of Anisotropic Porosity on Heat Transfer and Off-Gassing during Biomass Pyrolysis. Energy & Fuels, 2021, 35, 20131-20141.	5.1	17
15	Modified Pyroprobe Captive Sample Reactor: Characterization of Reactor and Cellulose Pyrolysis at Vacuum and Atmospheric Pressures. Industrial & Engineering Chemistry Research, 2017, 56, 5185-5200.	3.7	16
16	CFDâ€“DEM modeling of autothermal pyrolysis of corn stover with a coupled particle- and reactor-scale framework. Chemical Engineering Journal, 2022, 446, 136920.	12.7	14
17	Pyrolysis of lignocellulosic biomass: oil, char, and gas. , 2020, , 581-619.		12
18	Bridging Scales in Bioenergy and Catalysis: A Review of Mesoscale Modeling Applications, Methods, and Future Directions. Energy & Fuels, 2021, 35, 14382-14400.	5.1	12

#	Article	IF	Citations
19	<i>Ex situ</i> upgrading of pyrolysis vapors over PtTiO₂: extraction of apparent kinetics <i>via</i> hierarchical transport modeling. Reaction Chemistry and Engineering, 2021, 6, 125-137.	3.7	11
20	Mass Transport Limitations and Kinetic Consequences of Corn Stover Deacetylation. Frontiers in Energy Research, 2022, 10, .	2.3	5
21	Predicting thermal excursions during <i>in situ</i> oxidative regeneration of packed bed catalytic fast pyrolysis catalyst. Reaction Chemistry and Engineering, 2021, 6, 888-904.	3.7	4
22	Measurement of Transport Properties of Woody Biomass Feedstock Particles Before and After Pyrolysis by Numerical Analysis of X-Ray Tomographic Reconstructions. Frontiers in Energy Research, 2022, 10, .	2.3	3
23	Influence of Pelletization and Moisture Content of Oil Palm Empty Fruit Bunches (EFBs) on Dynamic Gasification Performance. Energy & Fuels, 2021, 35, 8807-8818.	5.1	1
24	A simplified integrated framework for predicting the economic impacts of feedstock variations in a catalytic fast pyrolysis conversion process. Biofuels, Bioproducts and Biorefining, 0, , .	3.7	1
25	Gasification of coal, Chenopodium Album biomass, and co-gasification of a coal-biomass mixture by thermogravimetric-gas analysis. Revista Facultad De IngenierÃa, 2019, 28, 53-77.	0.2	0